NEW YORK NEUROLOGICAL SOCIETY.

REPORT OF THE PROCEEDINGS OF THE SOCIETY AT ITS STATED MEETINGS
IN FEBRUARY AND MARCH AND ITS ANNUAL MEETING
IN APRIL, 1882.

Stated Meeting, February 2, 1882.

Dr. LANDON CARTER GRAY, President *pro tem.*, in the Chair.

The paper of the evening was read by Dr. WM. J. MORTON, and was entitled " A contribution to the subject of nerve-stretching in lateral sclerosis, paralysis agitans, athetosis, chronic transverse myelitis, sciatica, and reflex epilepsy."

[This paper appeared in full in the last number of this JOURNAL.]

Discussion.

The discussion was opened by Dr. JOHN WYETH, who related the history of a case of locomotor ataxia in which he had stretched the sciatic nerve. The patient had had the disease for six or seven years, and had suffered intense pain. The operation was done as had been described by Dr. Morton, and both nerves were stretched. In the left leg the nerve was stretched and pulled much more severely than in the right. The result was that in the left limb the pains ceased entirely, and did not return for three months, when they were much lighter, while in the right they recurred. There was no improvement in the gait or in co-ordination. The patient was in bed for ten days after the operation.

Dr. A. P. GERSTER reported a case of nerve-stretching in locomotor ataxia. The patient was a German, aged forty-five, a carpenter, who came to the German Hospital, September 19, 1881. The characteristic symptoms of the disease were present : absence of tendon reflex, ataxic gait, anæsthesia of feet and legs, fulgurating pains which caused great distress. Rectal and vesical action normal. Both sciatic nerves were stretched vigorously, the leg being lifted up by the nerve. The wound healed very sluggishly, as though there was some trophic disturbance. The sutures came away, the edges not uniting, yet there was no good suppuration, but only a kind of serous discharge.

The result of the operation was: no improvement (or increase) in ataxic gait or anæsthesia, but considerable relief from the pains, up to four months after the operation.

Dr. G. M. **Beard** asked if nerve-stretching had been used in the treatment of writer's cramp. He thought that it might prove useful in that disease, and would not hesitate to try it. He considered nerve-stretching to be a form of mechanical treatment which did not differ in kind from those formerly used, such as acupuncture, electro-puncture, electricity, massage, etc. The speaker believed that nerve-stretching would take its place permanently in the therapeutics of nervous diseases.

Dr. Wm. A. **Hammond** said that he had stretched two sciatic nerves in the same person for locomotor ataxia. The patient, a lady, was unable to walk, and the pains were simply atrocious. The symptoms were confined to the lower extremities. At times there was both rectal and vesical sphincter paralysis. He stretched both sciatic nerves vigorously. As in all his other cases (now seven or eight), the wound healed by first intention, though he had not used any antiseptic treatment. There was no improvement, either in locomotion or in the pains. In sciatica the speaker had stretched the nerve in a patient with immediate favorable result. The case was a very bad one. He had repeatedly stretched the nerve by flexing the thigh upon the pelvis, keeping the leg perfectly straight. He found it necessary, however, to give ether, for the operation was a painful one, and, besides, there was antagonistic effort on the part of the patient. By this method the speaker thought that the sciatic could be stretched, as well as by cutting down upon it, and, in his opinion, the former method would supplant the latter in most cases. In large and fat men the cutting operation, however, would probably still have to be performed.

The speaker referred to Dr. Morton's reported case of lateral sclerosis, which he had seen, and thought the result a remarkable one. [The patient was exhibited to the Society.]

Dr. C. L. **Dana** related an experiment performed by him to test the question whether stretching the sciatic moves the cord, as is asserted by some. A dog weighing twelve pounds, which had been dead twenty hours, was taken, the skull-cap removed, and one sciatic nerve exposed and pulled upon strongly. There was no movement of any part of the brain. The brain was removed and the medulla exposed, both sciatics were found and both pulled upon powerfully and simultaneously, but not the slightest movement could be obtained. The spinal cord was then exposed in the dorsal region. The most powerful traction failed to move the cord either when lying in the canal, or when raised out of it upon a knife-handle. The cord was cut in the lower dorsal region, but no movement of the lower segment could be obtained. The tissues were not softened.

The speaker said that no positive inferences could be drawn from such an experiment. Still, if powerful traction (over seventy-five pounds) upon both sciatics of a twelve-pound dog failed to move the cord appreciably, it might be inferred that ordinary nerve-stretching in human beings did not move it.

[Subsequent attempts upon a human cadaver and upon a camel failed to move the medulla or cord.]

Dr. Wm. A. Hammond said that while the last speaker's observation was no doubt correct, it did not prove that some of the fibres in the cord connecting with the sciatic were not moved. The motion might be slight and unappreciable.

Dr. Wyeth asked what was the mortality rate from the operation.

Dr. W. J. Morton said that, so far, five fatal cases had been reported. Of these three were indistinctly attributable to the operation, while two were distinctly attributable to surgical procedures.

Stated Meeting, March 1, 1882.

Dr. T. A. McBride, President, in the chair.

The paper of the evening was read by Dr. W. R. Birdsall, and was entitled "A contribution to the pathological anatomy of lead-poisoning."

The speaker said that cases of lead-paralysis in which a *post mortem* was obtained were so rare, and the pathology of the disease was so unsettled, that he ventured to offer the present contribution to the subject.

The clinical history of a patient suffering with lead-palsy was then given. The disease had lasted over two years, and showed itself with no unusual symptoms. (The facts regarding the paralysis are given in the discussion.) The patient finally died. A *post mortem* was obtained, but under such difficulties that it was not so complete as could be wished.

The muscles were not examined, but they were not atrophied.

There was no change of importance in the brain or its membranes.

The changes were most marked in the spinal cord, from the decussation of the pyramids to the middle of the cervical enlargement. Below this point they gradually became less decided. The changes in this section were greatest in the gray matter about 4 ctm. below the decussation of the pyramids. At this part for a distance of 2 ctm. hardening did not take place well. Here there was increased vascularity. Many lymphoid cells were also present. The cells of the anterior horns were remarkably large. The only approach to a pathological change in them was in the upper cervical region. Here the outer of the two cell-groups of the anterior horns seemed to be affected, the cells being small and indistinct. The largest cells, in most cases, were normally developed. There were no positive changes in the fibres of the anterior roots, although in some cases there was an abnormal vascularity, and lymphoid bodies were seen lying between the fibres to a greater extent than usual. As regards the white columns, there was some thickening of the septa near the gray matter, and some spots of sclerosis in the antero-lateral columns. There was also a very slight appearance of beginning sclerosis in the columns of Goll. On the whole the speaker was inclined to consider the changes those of a very mild grade of myelitis.

A summary of the literature upon the subject of the pathological anatomy of lead-poisoning was then given. The observations and views of Bernardt, Vulpian, Friedlander, Zenker, Monokau, Morritz, Seguin, Bromwell, and others were given.

Discussion.

The paper being open for discussion, Dr. E. C. Spitzka, in response to a question, was told that the paralysis was bilateral, that it affected the upper extensors of the fingers chiefly, but also the index finger and the thumb. The deltoid was not paralyzed. The right side was rather the more affected. The atrophy of the cell-groups was quite symmetrical. The cells of the anterior horns were not smaller in size than normal, but the large cells seemed to be fewer in number, while the number of small cells was apparently increased. There were certainly many healthy cells, and Dr. Birdsall could not say positively that there was any sclerosis as regards the columns of Goll. There was an increased vascularity of that part. This increased vascularity and an increase in the lymphoid elements were about the only changes observable.

Dr. SPITZKA said that the localization of the atrophy interested him as a possible confirmation of a view previously advanced by himself: that the cell-groups of the outer part of the anterior horns innervated the extensors of the arm, and those of the inner part the flexors. Some of the reasons for this view based on comparative anatomy, were given.

Dr. M. PUTNAM-JACOBI discussed the question of the mode of action of the lead.

It seemed to her a fact of very great interest that the three metals, lead, silver, and mercury had the common effect, in certain cases, of producing paralysis and other indications of a direct impairment in the nutrition of the nervous tissue. This was particularly the case with lead, in the use of which, so far as she knew, no symptoms of excitement were ever observed, and in which almost all the pathological changes might be interpreted as due to interference with nutrition. The vascularity of the nerve-centres and cell-groups, described by Dr. Birdsall, might indicate a defective nutrition, since it showed, perhaps, a slackening of the blood-current. This question, whether the action of the three metals mentioned was not primarily upon the nutrition, seemed of much importance in view of their extensive use medicinally.

The speaker asked whether there were any microscopical changes noted in the muscles of the intestinal walls; such as might explain the colic in lead-poisoning.

Dr. BIRDSALL said that no examination had been made by himself and he knew of no records of any. Dr. Birdsall exhibited microscopic sections of the cord.

Dr. SPITZKA, after examining them, said that they did not, in his opinion, show the existence of myelitis. He thought the columns of Goll were quite normal.

Dr. BIRDSALL, in reply, reiterated his opinion that there were probably, slight inflammatory changes. He had at first been in doubt, but more careful examination convinced him that the cord was not normal. There was a spot of softening in the cord, and this, he admitted, was very likely *post mortem*. But some previous pathological change was the primary cause. As regards the question, whether the lesion in lead-paralysis was primarily in the cord or in the muscles, he acknowledged that there were many cases which seemed to show that the muscles were chiefly and first affected. Still he believed that the opposite view was not without support, and was, on the whole, the more reasonable one.

Annual Meeting, April 4, 1882.

Dr. T. A. McBride, President, in the chair. The annual election of officers replaced the usual papers and discussion.

The following officers were elected.—*President*, E. C. Spitzka, M.D. ; *First Vice-President*, William J. Morton, M.D. ; *Second Vice-President*, A. D. Rockwell, M.D. ; *Recording Secretary*, Graeme M. Hammond, M.D. ; *Corresponding Secretary*, Mary Putnam Jacobi, M.D. ; *Treasurer*, E. C. Harwood, M.D. ; *Councillors*, W. R. Birdsall, M.D., E. C. Seguin, M.D., T. A. McBride, M.D., C. L. Dana, M.D., L. C. Gray, M.D.